THIS OPINION WAS NOT WRITTEN FOR PUBLICATION

The opinion in support of the decision being entered today (1) was not written for publication in a law journal and (2) is not binding precedent of the Board.

Paper No. 36

UNITED STATES PATENT AND TRADEMARK OFFICE

BEFORE THE BOARD OF PATENT APPEALS
AND INTERFERENCES

Ex parte BERNARD O. GEAGHAN

Appeal No. 97-0412
Application No. 08/434,558[1]

HEARD: November 4, 1999

Before JERRY SMITH, LALL, and GROSS, Administrative Patent Judges.

GROSS, Administrative Patent Judge.

DECISION ON APPEAL

This is a decision on appeal from the examiner's final rejection of claims 18, 20, 21, and 28. Claims 1 through 17,

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[1] Application for patent filed May 4, 1995. According to appellant, this is a continuation of Application No. 08/031,614, filed March 15, 1993, now abandoned.

22, 23, and 27 have been withdrawn from consideration. Claims 19, 24 through 26, 29, and 30 have been canceled.

Appellant's invention relates to a system for sensing the position of a stylus and generating a display. Claim 18 is illustrative of the claimed invention, and it reads as follows:

18. A system for sensing the position of a stylus proximate a display device employing a matrix of display electrodes which generate display electrode signals, wherein the position sensing and display functions are performed simultaneously, comprising:

means for generating in the stylus positioning signals;

means for coupling said positioning signals to the display electrodes and for superimposing said positioning signals onto the display electrode signals;

means for sensing said positioning signals from the display electrodes; and

means, responsive to said means for sensing, for resolving the position of the stylus in relation to the display electrodes.

The prior art references of record relied upon by the examiner in rejecting the appealed claims are:

Togashi et al. (Togashi)	4,345,248	Aug. 17, 1982
Piliavin et al. (Piliavin)	4,363,029	Dec. 07, 1982
Rympalski et al. (Rympalski)	4,639,720	Jan. 27, 1987
More et al. (More)	4,839,634	Jun. 13, 1989

Claims 18, 20, 21, and 28 stand rejected under 35 U.S.C.

§ 112, first paragraph, as being based on an inadequate written description.

Claims 18 and 20 stand rejected under 35 U.S.C. § 102(b) as being anticipated by Rympalski.

Claims 18, 21, and 28 stand rejected under 35 U.S.C. § 102(b) as being anticipated by Togashi.

Claims 18, 20, 21, and 28 stand rejected under 35 U.S.C. § 102(b) as being anticipated by Piliavin or More.

Reference is made to the Examiner's Answer (Paper No. 31, mailed August 19, 1996) for the examiner's complete reasoning in support of the rejections, and to appellant's Brief (Paper No. 28, filed June 11, 1996) and Supplemental Brief (Paper No. 30, filed July 12, 1996) for appellant's arguments thereagainst.

OPINION

We have carefully considered the claims, the applied prior art references, and the respective positions articulated by appellant and the examiner. As a consequence of our review, we will reverse the written description rejection of claims 18, 20, 21, and 28, and reverse the anticipation rejections of claims 18, 20, 21, and 28.

The examiner states (Answer, page 3) that "there is no explicit statement in the original disclosure on how sensing and displaying can be performed simultaneously." The examiner further explains (Answer, pages 4-5):

> Although the display and position signals might be superimposed, this in itself does not dictate simultaneous detection and display. For example,

> the manner of superimposing has not been explicitly set forth in the original disclosure. Here it has to be noted that time multiplexing is a manner of superimposing two signals.
>
> Page 12, lines 4-7 of the original specification only states the signals are mixed not to cause interference. Page 19, lines 16-18 states only that the positioning signals are of high frequency not to interfere with the display.

Reading the specification as a whole, we find appellant has adequately described simultaneous sensing and displaying. Appellant discloses (Specification, page 6, line 9-page 7, line 10) that in the prior art, the display electrodes served to sense position and to display. However, in the prior art, the electrodes of the display were used alternately for display and for position-sensing, which caused problems such as reducing the amount of time available for driving each pixel and interrupting the drive signals. In the SUMMARY OF THE INVENTION (Specification, page 10, lines 8-10), appellant states that in his invention, "[p]referably, the positioning signals are AC signals that may be superimposed on the display matrix drive signals without interrupting the display and without the need for multiplexing the display drive signals" (emphasis added). In other words, since alternating the two types of signals (or rather having the two types of signals at

different times) interrupts the display signals, and the invention avoids such interruption, the positioning signals must occur at the same time as the display.

The portions referenced by the examiner (Answer, page 4), i.e. that the two types of signals are mixed so as not to cause interference (page 12, lines 4-7) and that the positioning signals are of high frequency and small magnitude so as not to interfere with the driving signals (page 19, lines 16-18), further evidence that the superimposition of the two signals refers to simultaneous displaying and sensing. It is unclear to us how the signals could be mixed without occurring simultaneously or how the sensing signals would normally interfere with the driving signals if they were not occurring simultaneously. Accordingly, we find that although the term "simultaneous" is not used in the specification, appellant has adequate written description for simultaneously sensing and displaying.

As to the alleged anticipation of claims 18 and 20 by Rympalski, "[i]t is axiomatic that anticipation of a claim under §102 can be found only if the prior art reference discloses every element of the claim." In re King, 801 F.2d

1324, 1326, 231 USPQ 136, 138 (Fed. Cir. 1986); Lindemann Maschinenfabrik [GMBH] v. American Hoist and Derrick [Co.], 730 F.2d 1452, 1457, 221 USPQ 481, 485 (Fed. Cir. 1984). As pointed out by appellant (Brief, page 21), "[t]he stylus described in Rympalski does not 'generate positioning signals' as claimed by applicant, as it is an independent, passive component." Rympalski's stylus capacitively couples X-Y pairs of adjacent transparent conductive regions but does not generate any signal in the stylus. The examiner's reply (Answer, page 5) refers to Rympalski's recitation in the abstract that "the energization of the display pixels is multiplexed with the read-out scanning" and concludes that "[t]his real time read-out and energization superimpose signals to get the desired result." However, the examiner's statements concerning multiplexing and superimposition of signals do not respond to appellant's assertion that Rympalski's signals are not generated in the stylus. As the examiner fails to point to any portion of Rympalski indicating that the signals are generated in the stylus, we must reverse the rejection of claims 18 and 20 over Rympalski.

The examiner further rejects claims 18, 21, and 28 as being anticipated by Togashi. The examiner refers (Answer, page 5) to column 7, lines 42-44 of Togashi, wherein Togashi states that "display readout, together with input of data by means of a light pen or other light generating means, can be performed simultaneously," to support his assertion that the signals of Togashi can be superimposed. Claim 18 requires that the positioning signals be superimposed on the display electrode signals, not on the display readout. Viewing the remainder of the paragraph in column 7 referenced by the examiner, we find that "[d]riving of the row and column electrodes is performed cyclically, on a time-sharing basis, during a basic frame period denoted as T. This basic frame period is divided into a display frame period T_1 and a light detection frame period T_2." In other words, the positioning signals are not simultaneous with or superimposed on the drive signals, but rather are in a separate frame period. Therefore, Togashi does not anticipate the claims.

In Piliavin, which the examiner also applies against claims 18, 20, 21, and 28, "a finger is an input means" (Answer, page 5). Although a finger may be an input means, it

is not a stylus in which positioning signals are generated, as recited in claim 18. Piliavin instead discloses that the display elements sense a change in capacitance caused by the operator's proximity to the display elements. In other words, Piliavin suffers from the same deficiency as Rympalski. Accordingly, we must reverse the anticipation rejection of claims 18, 20, 21, and 28 over Piliavin.

Lastly, the examiner contends that More anticipates claims 18, 20, 21, and 28. In More (column 12, lines 30-35), however,

> the terminuses of the display matrix electrodes are alternately switched between: pen sense control means 2 for sensing the presence or sufficient proximity of the input pen 3; and the display control means 11 for operating the display elements to an "on" or "off" state.

More discloses substantially the same in column 13, lines 18-21, and column 15, lines 49-55. In other words, More "alternates use of the electrodes between the display and position-sense functions and does not superimpose the position and display signals" (Brief, pages 17-18). Thus, More fails to anticipate the claims for the same reasons as Togashi.

CONCLUSION

The decision of the examiner rejecting claims 18, 20, 21, and 28 under 35 U.S.C. § 112, first paragraph, and under 35 U.S.C. § 102(b) is reversed.

REVERSED

JERRY SMITH Administrative Patent Judge	)	
PARSHOTAM S. LALL Administrative Patent Judge	)	BOARD OF PATENT APPEALS AND INTERFERENCES
ANITA PELLMAN GROSS Administrative Patent Judge	)	

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